

AMENDMENTS TO THE CLAIMS

The listing of claims below replace all prior versions, and listings, of claims:

1 1. (Currently Amended) A system comprising:
2 an interface to receive a request from a client system for information in a
3 database system; and
4 a controller to format metadata associated with the requested information
5 into a format for display in the client system,
6 the controller further to map plural data types [[in]] defined by the
7 database system to corresponding file types to enable presentation in the client system of
8 an object having an associated data type retrieved from the database system,
9 the controller to map the plural data types to the corresponding file types
10 based on a table having multiple entries each associating a data type defined by the
11 database system with a file extension corresponding to a respective file type.

1 2. (Original) The system of claim 1, wherein the controller comprises a
2 network communications service to receive the request from the client system.

1 3. (Original) The system of claim 2, wherein the network communications
2 service comprises a Hypertext Transport Protocol service.

1 4. (Original) The system of claim 1, the controller to format the metadata
2 into a predetermined format displayable by a browser.

1 5. (Original) The system of claim 4, wherein the predetermined format
2 comprises a format selected from the group consisting of a Hypertext Markup Language
3 format, an Extensible Markup Language format, and a Wireless Markup Language
4 format.

1 6. (Original) The system of claim 1, wherein the database system comprises
2 an object relational database system.

1 7. (Original) The system of claim 1, wherein the plural data types comprise
2 two or more of the following: audio data, video data, multimedia data, image data, and
3 geospatial data.

1 8. (Original) The system of claim 1, further comprising a storage element
2 containing an object retrieved from the database system, the controller to communicate
3 data in the object as a stream to the client system.

1 9. (Original) The system of claim 8, wherein the controller communicates
2 portions of the object to the client system in the stream so that the entire object need not
3 be communicated to the client system for storage.

1 10. (Original) The system of claim 1, wherein the metadata comprises a
2 hyperlink.

1 11. (Original) The system of claim 10, the interface to receive a second
2 request indicating selection of the hyperlink, the hyperlink corresponding to the object in
3 the database system.

1 12. (Cancelled)

1 13. (Original) The system of claim 1, wherein the metadata contains a
2 description of plural objects in the database system.

1 14. (Original) The system of claim 13, wherein the description comprises
2 hyperlinks corresponding to the plural objects.

1 15. – 16. (Cancelled)

1 17. (Currently Amended) ~~The method of claim 16, further comprising A~~
2 method of accessing an object relational database, comprising:
3 loading an applet over a network from a server;
4 executing the applet to present an interactive interface in a browser display
5 screen to receive user queries and to send requests for information from the object
6 relational database in response to the user queries;
7 receiving metadata relating to requested information from the object
8 relational database;
9 displaying at least a portion of the metadata as a hyperlink;
10 in response to selection of the hyperlink, sending a request for an object in
11 the object relational database, the object containing information associated with the
12 selected metadata portion;
13 associating the object with one of plural presentation routines to present
14 the information in the object;
15 mapping associating plural data types stored in the object relational
16 database with to corresponding plural file types; and
17 identifying a file type of the object based on the mapping.

1 18. (Original) The method of claim 17, wherein associating the object with
2 one of plural presentation routines is based on the file type of the object.

1 19. (Currently Amended) The method of claim ~~[[15]]~~ 17, further comprising
2 invoking the one presentation routine as a plug-in to a browser.

1 20. (Currently Amended) An article comprising at least one storage medium
2 containing instructions that when executed cause a first system to:
3 receive a request from a client system for data in a database;
4 retrieve the data from the database; and
5 determine a data type of the retrieved data and map the data type to a file
6 type presentable by the client system,
7 wherein mapping the data type to the file type comprises accessing a table
8 having multiple entries to map data structure that maps plural data types associated with
9 data stored in the database with corresponding plural file types presentable by the client
10 system, each entry of the table associating a data type defined by the database with a file
11 extension corresponding to a respective file type.

1 21. (Original) The article of claim 20, wherein the instructions when executed
2 cause the first system to:
3 retrieve metadata describing the requested data; and
4 format the metadata according to a predetermined format displayable by
5 the client system.

1 22. (Original) The article of claim 21, wherein the predetermined format
2 comprises one of a Hypertext Markup Language format, an Extensible Markup Language
3 format, and a Wireless Markup Language format.

1 23. (Original) The article of claim 21, wherein the metadata comprises a
2 hyperlink, the instructions when executed causing the first system to receive activation of
3 the hyperlink and to retrieve the data in response to the activation of the hyperlink.

1 24. (Original) The article of claim 20, wherein the instructions when executed
2 cause the first system to retrieve an object from an object relational database.

1 25. (Original) The article of claim 20, wherein the database stores rules
2 pertaining to presentation of the data in the client system, the instructions when executed
3 causing the first system to access the rules to map the data type to the file type.

1 26. (Previously Presented) A system comprising:
2 one or more storage devices containing an applet and a document;
3 an interface to a network; and
4 a controller to communicate the document to a client device, the document
5 containing data defining a page displayable in a browser screen, and the applet containing
6 instructions that when executed provide an interactive portion of the browser screen to
7 enable user entry of Structured Query Language (SQL) queries,
8 the applet responsive to SQL queries entered in the interactive portion of
9 the browser screen by sending corresponding requests for accessing data in a database
10 system.

1 27. - 29. (Cancelled)

1 30. (Currently Amended) ~~The system of claim 1,~~ A system comprising:
2 an interface to receive a request from a client system for information in a
3 database system;
4 a controller to format metadata associated with the requested information
5 into a format for display in the client system;
6 the controller further to map plural data types in the database system to
7 corresponding file types to enable presentation in the client system of an object having an
8 associated data type retrieved from the database system; and
9 wherein the controller is adapted to communicate the requested
10 information and executable code associated with the requested information to the client
11 system, the executable code for presenting the requested information in the client system.

1 31. (Previously Presented) The system of claim 1, wherein the controller is
2 adapted to further receive presentation information stored in the database system, the

3 presentation information defining a manner in which the requested information is to be
4 presented by the client system.

1 32. (Previously Presented) The system of claim 31, wherein the controller is
2 adapted to use the presentation information to map the data types to the file types.

1 33. (Cancelled)

1 34. (Currently Amended) The method of claim [[15]] 17, further comprising:
2 receiving at least one of a Hypertext Markup Language (HTML),
3 Extensible Markup Language (XML), and Wireless Markup Language (WML) file to
4 present the browser display screen.

1 35. (Previously Presented) The method of claim 34, wherein the at least one of
2 the HTML, XML, and WML file causes a first frame to be presented in the browser
3 display screen, the method further comprising invoking the applet in response to user
4 selection of an element in the first frame,
5 wherein the interactive interface is presented in a second frame in the
6 browser display screen.

1 36. (Currently Amended) ~~The article of claim 20,~~ An article comprising at
2 least one storage medium containing instructions that when executed cause a first system
3 to:

4 receive a request from a client system for data in a database;

5 retrieve the data from the database;

6 determine a data type of the retrieved data and map the data type to a file
7 type presentable by the client system,

8 wherein mapping the data type to the file type comprises accessing a data
9 structure that maps plural data types associated with data stored in the database with
10 corresponding plural file types presentable by the client system,

11 wherein the instructions when executed cause the first system to
12 communicate executable code stored in the database and associated with the retrieved
13 data to the client system, the executable code for presenting the retrieved data in the
14 client system.

1 37. (Previously Presented) The system of claim 26, wherein the applet is
2 invoked in response to user selection of an element in a first frame of the browser screen,
3 the interactive portion being part of a second frame of the browser screen.

1 38. (Previously Presented) The system of claim 37, wherein the browser
2 screen comprises a third frame to display a result page in response to a request for data in
3 the database system,
4 the result page containing at least one hyperlink selectable by a user to
5 retrieve an object from the database system.

1 39. (New) The system of claim 1, wherein the controller is adapted to create a
2 file name for the object, the file name containing the file extension mapped for the data
3 type of the object, and to send a file having the file name to the client system, the file
4 containing the object.

1 40. (New) The method of claim 17, wherein mapping the plural data types to
2 corresponding plural file types comprises mapping, based on a mapping table, the plural
3 data types defined by the object relational database to the corresponding file types,
4 wherein the mapping table has entries each mapping a data type to a corresponding file
5 extension associated with a respective file type.

1 41. (New) The article of claim 20, wherein the instructions when executed
2 cause the first system to further create a file name for the retrieved data, the file name
3 containing the file extension mapped for the data type of the retrieved data, and to further
4 send a file having the file name to the client system, the file containing the retrieved data.